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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,396	09/29/2000	Brian James Martin	55,045 (158)	9210
21874	7590	09/01/2005	EXAMINER	
EDWARDS & ANGELL, LLP			TANG, KENNETH	
P.O. BOX 55874				
BOSTON, MA 02205			ART UNIT	PAPER NUMBER
			2195	

DATE MAILED: 09/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/675,396

Applicant(s)

MARTIN ET AL.

Examiner

Kenneth Tang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. This application is in response to the Amendment filed on 10/8/04. Applicant's arguments have been fully considered but are now moot in view of the new grounds of rejections.
2. Claims 1-29 are presented for examination.

Claim Objections

3. Claims 2 and 26-27 are objected to because of the following informalities:
 - a. In claims 2 and 26, "the global lock where a global lock" should be changed to "a global lock where the global lock", lines 3-4.
 - b. In claim 27, "comprised" in line 3 should be changed to "comprising".Appropriate correction is required. In addition, it is uncertain whether this claim depends on claim 26 or if "the global lock" should be changed to "a global lock".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3-4, 12-13, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:
 - c. In claims 3-4, 12-13, and 18, the term "touched" is indefinite (lines 7, 9, and 13) because it is not made explicitly clear how a data set can "touch" a path.

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This rejection was made in the last office action. Some claims were amended to overcome the rejection but not claims 3-4, 12-13, and 18.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claim 23 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 5 of copending Application No. 09/751659 in view of Lomet (US 5,596,754). Although the conflicting claims are not identical, they are not patentably distinct from each other because both computer systems comprise substantially the same elements, such as determining methodology, creating N locks, and modifying the locking requirements. The differences between the parent application and this case are the claimed partitions. However, Lomet teaches data lock management and that using locks for partitions is well known (*col. 1, lines 34-35 and lines 40-57*). It would have been obvious to one of ordinary skill

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in the art at the time the invention was made to combine the feature of partitioning, having locks for the partitions, and management of the partition locks because it increases the control of data accessing/sharing.

6. This is a provisional obviousness-type double patenting rejection because the conflicted claims have not in fact been patented as.

Claims 1-22 and 25-29 are rejected as a provisional obvious-type double patenting rejection as applied to claim 5 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1-2, 7-8, 10-11, 17, 21-22, 25, 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cornwell et al. (hereinafter Cornwell) (US 6,754,656 B1) in view of Haderle et al. (hereinafter Haderle) (US 6,334,134 B1).**

8. As to claim 1, Cornwell teaches a method for reducing contention of a highly contended software lock protecting data items of a data set, all of the data items being stored in a system memory of a multi-processor computer system, said method comprising the steps of:

defining partitions within the data set (defined, partitioned table space) (*col. 6, lines 30-34*);

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creating N partition locks, where $N > 2$ (selective partition locking where all partitions are selected to be locked) (*col. 6, lines 30-34*);

identifying one code path from one or more code paths of a software program that access one or more of the data items (access request) (*Fig. 3, item 302, col. 6, lines 7-48*);

determining which data items of the data set are accessible by the identified code path (*Fig. 3, item 302, col. 6, lines 7-48*);

partitioning at least a portion of the data items that are touched by the identified code path (selective partition locking) (*Fig. 3, item 302, col. 6, lines 7-48*); and

As stated earlier, Cornwell teaches using code paths to acquire and release locks on data items being accessible (*Fig. 3, item 302, col. 6, lines 7-48*). Cornwell fails to explicitly teach optimizing the locking requirements. However, Haderle teaches having a global lock, reducing lock contention, and having P-locks (partition locks, etc.) that are negotiable wherein they can dynamically make adjustments according to changing interests (*col. 6, lines 17-38, col. 7, lines 18-19*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the feature of optimizing the locking requirements to the existing locking system of Cornwell because this would allow dynamically to make any necessary adjustments based on interests (*col. 6, lines 25-32*).

9. As to claim 2, Cornwall (*col. 5, lines 43-53*) in view of Haderle (*col. 6, lines 17-40, etc.*) teaches the method comprising the step of modifying the locking requirements of the one or more code paths of the software program that access one or more of the data items so as to acquire all N partition locks and the global lock where a global lock would

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have been acquired prior to accessing of the one or more data items and so as to release all N partition locks and the global lock would have been released after accessing of the one or more data items.

10. As to claim 7, Cornwell teaches the method according to claim 1, further comprising the step of first determining a methodology for partitioning the data set (*col. 2, lines 12-23, Fig. 3, item 302, col. 6, lines 7-48*).

11. As to claims 8, Cornwell in view of Haderle fails to explicitly teach the method wherein the code path first identified is the heaviest used code path and wherein the another code path and subsequent code paths are identified sequentially in the direction from the heaviest used code path to a lesser used path. However it is well known and obvious to one of ordinary skill in the art to identify code paths from heaviest used to lesser used because this would be an obvious sequence for optimization.

12. As to claim 10, Cornwell teaches the method wherein there is one of a plurality or a multiplicity of code paths that access one or more of the data items (*Fig. 3, item 302, col. 6, lines 7-48*).

13. As to claim 11, it is rejected for the same reasons as stated in the rejection of claims 1 and 2.

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14. As to claim 17, it is rejected for the same reasons as stated in the rejection of claim 1.

15. As to claim 21, it is rejected for the same reasons as stated in the rejection of claim 7.

16. As to claim 22, it is rejected for the same reasons as stated in the rejection of claim 10.

17. As to claim 25, it is rejected for the same reasons as stated in the rejection of claim 1.

18. As to claim 27, Cornwall (*col. 5, lines 43-53*) in view of Haderle (*col. 6, lines 17-40, etc.*) teaches wherein in the case where accessing data in the one or more code paths in which all N partition locks and the global lock are acquired and released, said method further comprised the steps of: acquiring all N partition locks and the global lock; accessing the data being protected by the acquired N partition locks and the global lock; and releasing all N partition locks and the global lock.

19. As to claim 28, it is rejected for the same reasons as stated in the rejection of claim 8.

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20. As to claim 29, Cornwell teaches the method wherein locking requirements for a plurality of code paths are optimized, and wherein said acquiring, accessing and releasing are selectively effected in any one of the plurality of code paths provided that the data items to be locked in said any one code path are not locked in any other of the plurality of code paths (*col. 2, lines 12-23, Fig. 3, item 302, col. 6, lines 7-48*).

21. **Claims 5-6, 14-15, 19-20, and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cornwell et al. (hereinafter Cornwell) (US 6,754,656 B1) in view of Haderle et al. (hereinafter Haderle) (US 6,334,134 B1), and further in view of Benneth et al. (hereinafter Bennett) (US 5,956,712).**

22. As to claims 5-6, Cornwell and Haderle fails to explicitly teach the method further comprising the step of evaluating the software program after said optimizing the locking requirements so as to determine if the overall performance of the software program is acceptable, wherein the overall system performance is based on reducing contention of the highly contended software lock. However, Bennett teaches evaluating the program locking to determine the if there is sufficient (acceptable) locking complexity, and if not, repeating the process with a new request/code path (*Fig. 6, col. 15, lines 39-51*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the features of evaluating the program locking to determine the if there is sufficient (acceptable) locking complexity, and if not, repeating the process with a new request/code path to the existing locking system of Cornwell and Haderle because it

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would improve lock performance, reduce waiting time for locks, and increase system operating efficiency (*col. 3, lines 37-45*).

23. As to claims 14-15, 19-20 and 23-24, they are rejected for the same reasons as stated in the rejection of claims 5 and 6.

Response to Arguments

24. Applicant's arguments have been fully considered but are now moot in view of the new grounds of rejections.

Allowable Subject Matter

25. Claims 3-4, 9, 12-13, 16, 18, and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims in addition to overcoming the non-statutory double patenting rejections with a timely filed terminal disclaimer.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kt
8/10/05


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